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Enquiry no.: ME/ERL/2012-13/Jan/01

Enquiry date: January 24th, 2013

Last Date: February 10th, 2013

Enquiry for AC, DC & Eddy Current Dynamometer-Engine Testbeds

Sealed quotations are invited for the purchase of following items with detailed specifications given below:

1. AC Dynamometer with Two Cylinder CRDI Engine Testbed (1 No.)
2. DC Dynamometer with Single Cylinder Diesel Engine Testbed (1 No.)
3. Eddy Current Dynamometer with Two Cylinder Engine Testbed (1No.)

Detailed Specifications:

1. AC Dynamometer with Two Cylinder CRDI Engine Testbed

1. AC Servo Motor Dynamometer with Drive and motor mounting frame
 - AC Motor: 36 kW, Four Quadrant AC Drive with AC Servo Motor Speed Controller (ABB, Wittur or Similar Make)
 - Base Speed: 2500 RPM
 - Rated Torque: 138 Nm at 2500 RPM
 - Power: 36 kW upto 3700 RPM
 - Max Speed: 7000 RPM
2. Suitable Load Cell, Encoder, Propeller shaft, Shaft guard, Drive Panel, Calibration arms
3. Heavy duty rigid Dyno & Engine universal mounting Structure with appropriate coupling
4. Dynamometer controller (ABB, Wittur or Similar Make) (interface for AC Drive with INT/EXT controls) in Constant speed operation, Constant Torque operation and Constant Position Control, with safety Features of Over speed set point
5. Throttle Lever Position Actuator with controller (AC SERVO: Lenze or similar make): Response Time; Time suitable for transient test cycle should be equal to or better than 20 ms at no load and 80 ms at max (35 Nm) load with Control Accuracy better than 0.05%
6. Two Cylinder CRDI Engine with ECU (Euro 4) with all accessories required for engine testing (Tata Ace or similar)
7. Suitable RPM Amplifier, Torque Amplifier, Remote I/O module with converter & SMPS.
8. Suitable Temperature Sensors and Pressure Transducers (Siemens make) on a panel.
9. Engine Start Stop Controller.
10. Control Desk with PC CONTROLS for Engine Test Bed with Windows based Software.
11. Appropriate racks for housing various controls and accessories.

12. Associated Cables, Conduits & other Installation material, System Engineering, Design & Integration, Project management & documentation and installation at IIT Kanpur.

2. DC Dynamometer with Single Cylinder Diesel Engine Testbed

1. DC Motor (Crompton Greeves or similar make) Dynamometer with Drive (ABB, Wittur or Similar Make) and Motor mounting frame
 - D. C. Motor: 22 kW
 - Base Speed: 1500 RPM
 - Rated Torque: 140 Nm at 1500 RPM
 - Power: 22 kW upto 2000 RPM
 - Max Speed: 2200 RPM
 - Four Quadrant DC Drive with Motor Speed Controller (ABB, Wittur Make)
2. Suitable Load Cell, Encoder, Propeller shaft, Shaft guard, Drive Panel, Calibration arms
3. Heavy duty rigid Dyno & Engine universal mounting Structure with coupling
4. Dynamometer controller (ABB, Wittur or Similar Make) (interface for DC Drive with INT/EXT controls) in Constant speed operation, Constant Torque operation and Constant Position Control, with safety Features of Over speed set point
5. Throttle Lever Position Actuator with controller (AC SERVO: Lenze or similar make): Response Time; Time suitable for transient test cycle should be equal to or better than 20 ms at no load and 80 ms at max (35 Nm) load with Control Accuracy better than 0.05%
6. Single Cylinder Constant Speed Genset Engine (10 hp) with accessories required for engine testing (Kirloskar DM-10 or similar)
7. Suitable RPM Amplifier, Torque Amplifier, Remote I/O module with converter & SMPS
8. Suitable Temperature Sensors and Pressure Transducers (Siemens make) on a panel
9. Engine Start Stop Controller
10. Control Desk with PC controls for Engine Testbed with Windows based Software.
11. Appropriate racks for housing various controls and accessories.
12. Associated Cables, Conduits & other Installation material, System Engineering, Design & Integration, Project management & documentation and installation at IIT Kanpur.

3. Eddy Current Dynamometer with Two Cylinder CRDI Diesel Engine Testbed

- Eddy Current Dynamometer with Mounting frame
- Maximum Power: 100 HP @ 3500 to 8000 rpm
 - Maximum Speed: 8000 RPM
 - Maximum Torque: 205 Nm @ 1500 to 3500 rpm.
 - Direction of Rotation: Bi-directional
2. Suitable Magnetic Filter, Load Cell, Magnetic Pickup, Propeller shaft, Shaft guard, Control Panel, Calibration arms
 3. Heavy duty rigid Dynamometer & Engine universal mounting Structure with coupling
 4. Dynamometer controller (interface for dynamometer with INT/EXT controls) in Constant speed operation, Constant Torque operation and Constant Position Control, with safety Features of Over speed set point
 5. Throttle Lever Position Actuator with controller (PMDC Motor):
 6. Two Cylinder CRDI Engine with ECU (Euro 4) with all accessories required for engine testing (Tata Ace or similar)
 7. Suitable RPM Amplifier, Torque Amplifier, Remote I/O module with converter & SMPS
 8. Suitable Temperature Sensors and Pressure Transducers (Siemens make) on a panel
 9. Engine Start Stop Controller, Cable Boom with Junction Box for Temp & Pressure Sensors

10. Control Desk with PC Controls for Engine Test Bed with Windows based Software.
11. Appropriate racks for housing various controls and accessories.
12. Associated Cables, Conduits & other Installation material, System Engineering, Design & Integration, Project management & documentation and installation at IIT Kanpur.

Eligibility Conditions:

- (i) The firm must have supplied at least one dynamometer of each type to Industry/ Government Agencies in India. Kindly send PO for the same as proof of reference.
- (ii) The firm must have supplied at least five dynamometers (of any type) to Government Agencies. Kindly send PO for the same as proof of reference.

Terms & Conditions:

- (i) Warranty should at least be for three years after the installation.
- (ii) Validity of quotation should be at least for 90 days.
- (iii) The company should be able to operate the engine-dynamometer testbed at IITK and demonstrate its functioning and experiments using computerized controls. The scope of supply will include anything else, which is essential to operate the testbed.

Kindly send your best offer (Techno-Commercial offer) so as to reach us on or before February 10th, 2013 to the following address:

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